



Topic: Intelligent Transport Systems

Submission date: 2006

Name of measure/service etc:

Integrated Traffic Management Centre Stuttgart

Location: City of Stuttgart, Germany

Initiator and partners:

City of Stuttgart

Short description of the activity:

Future traffic management cannot be done by traffic volume-oriented control alone, but must consider traffic-relevant events and integrate them into prognosis models. This requires not only the permanent detection of the traffic volumes but of all relevant events that influence traffic. This is done in Stuttgart by the Integrated Traffic Management Centre. The system manages and controls the traffic flow in a pro-active manner, i.e. on the operative level with foreseeable events, e.g. commuter traffic, work sites or big events as well as with unforeseeable events such as accidents.

Background and objectives:

Due to its cauldron location and limited amount of access roads, Stuttgart has special problems (capacity-related) and demands. The city has a highly loaded arterial road network, where already small incidents can lead to considerable traffic disturbances.

All traffic prognoses forecast the growing demand in mobility and the super proportional increase in traffic and transport. The Stuttgart Regional Transport Master Plan forecasts an increase in vehicle mileage in individual traffic by 20%, and in public transport 50% until 2010.

The City of Stuttgart, as almost all big cities, is deeply discussing the requirements that transport systems have to fulfil in future and how to define - and above all - how to guarantee sustainable mobility in future. The future belongs to the reasonable choice of the transport mode by combining all kinds of transport.

The City has developed Stuttgart 21, which is a combined transport and urban development project, which provides a perspective for the development of the city and region of Stuttgart far beyond the 21st century.

Integrated transport policy which includes the components of:

- Sustainable mobility and information management, mobility centre
- Integrated traffic management (IVLZ/SIMOS), which represents a unique model in Germany by integrating different actors and instruments from diverse urban authorities as the city traffic management, the headquarter of the police traffic department, the fire department, emergency services (e.g. Red Cross) and the Stuttgart public transport operator (SSB).

- A regional transport approach: The regional traffic and transport plan for the Stuttgart Region is an integrated concept for road, rail and important cycle lanes; it was decided in March 2001.
- Environmental protection plans and actions (climate protection concept, clean air programme since 1 Jan 2006: permanent driving ban for heavy goods vehicles through the city since Jan 2006; additional access restrictions planned).
- Cycle path network that is being extended to promote bicycle traffic.
- Mobility user groups and Round Tables (e.g. on emission and noise reduction, bicycle traffic)
- Hydrogen fuel cell buses (participation in field trial and test operation)
- World Mobility Forum since 2002
- Initiator of the network of "Cities for Mobility", start in January 2007
- Improvement of all kinds of transport infrastructure

The Integrated Traffic Management Centre has the primary target to improve the traffic situation in case of traffic disturbances (incidents) and events, to promote intermodality in connection with big events, to avoid congestion and overloading in road traffic and to reduce travel times due to big events as well as of emissions by means of optimal information and guidance of the road users. The future belongs to the reasonable choice of the transport mode by combining all kinds of transport.

Implementation:

Future traffic management cannot be done by traffic volume-oriented control alone, but must consider traffic-relevant events and integrate them into prognosis models. This requires not only the permanent detection of the traffic volumes but of all relevant events that influence traffic. In Stuttgart occur yearly:

- 22 600 accidents,
- 13 000 work sites,
- 3 600 heavy transports,
- 1 800 events
- Several congresses, fairs and soccer games.

Implementing the Integrated Traffic Management Centre (IVLZ) in April 2006 - just in time for the Soccer World Championship 2006 – the step from information platform to operative integrated traffic management has been taken in Stuttgart. The Integrated Traffic Management Centre actively controls traffic by means of light signal system control and variable routing systems –not only in case of overload, but also in case of events, work sites and accidents.

The Integrated Traffic Management Centre enables an event-oriented control of traffic flow across all transport modes. The system manages and controls the traffic flow in a pro-active manner, i.e. on the operative level with foreseeable events, e.g. commuter traffic, work sites or big events as well as with unforeseeable events such as accidents.

The insight that future requirements on traffic infrastructure cannot be achieved isolated by the different partners, led to the integrated approach, which is unique in Germany: The new Security and Mobility Management Centre (SIMOS) locates in the same building beside the Integrated Traffic Management Centre the headquarter of the police traffic department, the fire department, emergency services (Red Cross) and the Stuttgart public transport operator (SSB). These partners cooperate on a strategic and operative level.

Up to now activities concentrated on the management centre, the integration of the different data sources for traffic control and traffic information and the installation of the

technical equipment in the street space. Based on these activities the user-related measures for influencing the driving behaviour will be operated including:

- Internet-capable data preparation and visualization of the current and event-related traffic conditions.
- Implementation of a data interface for the transfer of traffic information to the broadcaster and the mobile network operator.
- Provision of the data by means of an interface for commercial users.
- Creation of a data network with the online carpooling system "Pendlernetz Stuttgart".
- Communication of the traffic-controlling measures by display systems in the street space.
- Measure-oriented traffic guidance to guarantee or increase traffic quality.



Picture 1: Integrated Traffic Management Centre

During the Soccer World Championship a press office was installed in the Integrated Traffic Management Centre to inform regularly on the traffic situation during all games in Stuttgart (also on the Internet). This information service was very-well received by users and also by the local press and radio stations. Consequently this service was extended to all games of the German team during the World Championship.

Conclusions:

One of the main results will be the reduction of the severe traffic impacts of traffic disturbances (e.g. capacity constraints, incidents) in the urban network of Stuttgart as well as the reduction of the traffic disturbances in case of big events (work sites, concerts, etc.) by 30%.

Influencing the driver behaviour due to event-oriented requirements will optimise the traffic flow and help to avoid congestion. The travel times due to overload caused by big events and the emissions due to overload are expected to be reduced by 30%.

Generally, sustainable mobility will be supported by a better integration of transport modes, enhancing efficiency of the transport systems and improving intermodality and making mobility more comfortable for all participants.

During the Soccer World Championship 2006 traffic management went really smooth, without major traffic jams thanks to the new Integrated Traffic Management Centre and the good cooperation between all institutions involved.



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